



21ST CENTURY MOUSE GENETICS
Monday, October 30 – Friday, November 3, 2017

Course Organizer:
Kelly LaRue, Ph.D., The Jackson Laboratory

For more information please contact:
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Monday, October 30
The Power of the Mouse

- 8:15 am Primer
 Kelly LaRue, Ph.D., Genomics Education Specialist
- 8:30 **Mice as Models for Human Diseases**
 Gregory Cox, Ph.D., Associate Professor
- 9:30 **Chromosomes and Meiosis**
 Mary Ann Handel, Ph.D., Senior Research Scientist
- 11:00 **Recombination Hotspots and Mendelian Mapping**
 Petko Petkov, Ph.D., Senior Research Scientist
- 1:00 **Phenotypic and Genotypic Quality Control: Recognizing, Controlling and Preventing Deviations in Mouse Colonies That Can Lead To Experimental Error**
 Melissa Osborne, M.S., Program Manager, In Vivo Operations
- 2:00 End

Tuesday, October 31
Harnessing Genetic Variation

- 8:15 am **Primer**
 Kelly LaRue, Ph.D., Genomics Education Specialist
- 8:30 **Spontaneous Mutation Discovery: Exploring Nature's Mutagenesis Experiment**
 Dave Bergstrom, Ph.D., Genetic Resource Science Research Scientist
- 9:30 **Chemical Mutagenesis: a Discovery Tool**
 Patsy Nishina, Ph.D., Professor
- 10:45 **Mouse Transgenics and KOMP**
 Kevin Peterson, Ph.D., Technology and Resource Development Scientist

1:00 **Complex Trait Genetics and Advanced Mouse Populations**
Elissa Chesler, Ph.D., Associate Professor

2:00 End

Wednesday, November 1

Genetic Tools

8:15 am **Primer**
Kelly LaRue, Ph.D., Genomics Education Specialist

8:30 **How to Make a Better Mouse: CRISPR, etc.**
Michael Wiles, Ph.D., Senior Director of Technology Evaluation and Development

9:30 **Epigenome Engineering using CRISPR**
Jennifer Trowbridge, Ph.D., Assistant Professor

11:00 **Viral Vectors As Genetic Engineering Tools**
Ryuta Ishimura, Ph.D., D.V.M., Molecular and Viral Vector Scientist

1:00 **The JAX Cre Repository: Mouse and Information Resources**
Steve Murray, Ph.D., Research Scientist

2:00 End

Thursday, November 2

Computational Approaches to Mouse Genetics

8:15 **Primer**
Kelly LaRue, Ph.D., Genomics Education Specialist

8:30 **Genomes and Genome Assembly**
Gareth Howell, Ph.D., Associate Professor

9:30 **RNA-seq: From (good) experimental design to (accurate) gene expression abundance**
Narayanan Raghupathy, Ph.D., Assistant Computational Scientist

2:00 **Databases and Ontologies**
David Hill, Ph.D., Research Scientist – Blake Lab

3:30 **Defining the Consequences of Genetic Variation on a Proteome-Wide Scale**
Steve Munger, Ph.D., Assistant Professor

4:30 **Systems Genetics Analysis of Complex Traits**
Greg Carter, Ph.D., Associate Professor

5:00 End

Friday, November 3

The Mouse as a Model for Human Biology

- 8:15 am **Primer**
Kelly LaRue, Ph.D., Genomics Education Specialist
- 8:30 **Disease Models: What It Takes to Make a Good One**
Robert Burgess, Ph.D., Professor
- 9:30 **Modern Approaches to Develop More Predictive Mouse Models for Alzheimer's Disease**
Gareth Howell, Ph.D., Associate Professor and
Catherine Kaczorowski, Ph.D., Assistant Professor
- 11:00 **PDX**
Kin-hoe Chow, Ph.D., PDX R&D Core Study Director
- 11:45 **Microbiome**
Karen Svenson, Ph.D., Senior Scientific Program Manager
- 1:30 **Principles of Behavioral Phenotyping**
Stacey Rizzo, Ph.D., Associate Director, Mouse Neurobehavioral Phenotyping Facility and
Jacqui White, Ph.D., Director, Center for Biometric Analysis
Location: GRB Training Lab
- 2:30 End